

C. Detailed Development Standards

Figure 6 provides detailed development standards for each of the six main land use districts. These standards are as critical as the locational land use recommendations in Figure 4. Careful adherence to these development and design standards will assure that:

- The desired unique character and sense-of-place in Green-Tech Village can be achieved.
- Sufficient densities to maximize tax base, transit potential, and walkability will be achieved.
- Opportunities for on-site expansion will be built into initial site plans.
- Building and site design will be of high and lasting quality and follow “green” building approaches.

These development standards should be refined and used as components of planned development district or traditional neighborhood district zoning rules, development agreements, and/or private covenants to regulate development in Green-Tech Village. Departures should only be considered if they advance the purpose and goals of this Green-Tech Village Neighborhood Plan.

The following paragraphs provide additional details and rationale for some of the standards included in Figure 6.

1. Sustainable Design and Green Building

"Sustainable building is the design and construction of buildings using methods and materials that are resource efficient and will not compromise the health of the environment or the associated health and well-being of the building's occupants, construction workers, the general public, or future generations. Sustainable building involves the consideration of many issues, including land use, site impacts, indoor environment, energy and water use, solid waste, and lifecycle impacts of building materials."¹

Figure 7 lists a number of criteria for sustainable design that can be incorporated into the site and building review process. The City should use the LEED Green Building Rating System™ to evaluate development proposals within Green-Tech Village, or develop its own system using similar criteria. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™, which was developed by members of the U.S. Green Building Council, provides a national standard for developing energy-efficient, sustainable building and sites. Within Green-Tech Village, projects should be required to meet the “Certified” standards within

Figure 7: Examples of Green Building Criteria
<p><u>Sustainable Sites</u></p> <ul style="list-style-type: none"> • Progressive stormwater management • Alternative transportation options • Reduce heat island effects <p><u>Water Efficiency</u></p> <ul style="list-style-type: none"> • Reduce water use • Innovative wastewater technologies <p><u>Energy</u></p> <ul style="list-style-type: none"> • Optimize energy performance • Renewable energy use • Green power (e.g., passive solar building design, photovoltaics) <p><u>Materials</u></p> <ul style="list-style-type: none"> • Construction waste management • Recycled building materials • Local region materials • Certified wood • Greenroof systems <p><u>Indoor Environment</u></p> <ul style="list-style-type: none"> • Building daylighting and views • Tobacco smoke control • CO₂ monitoring • Ventilation effectiveness • Low-emitting materials • Thermal control

¹ Miriam Landman, “Breaking Through the Barriers to Sustainable Building: Insights from Building Professionals on Government Initiatives to Promote Environmentally Sound Practices” (Master’s Thesis, Tufts University, 1999).

the LEED™ Rating System (Version 2.1) or a similar standard in an alternative system. In the LEED™ system, the builder has flexibility on how best to meet the LEED™ “Certified” standard. A copy of the LEED™ Rating System Version 2.1 may be found at www.usgbc.org/LEED/LEED_main.asp.

Principles of sustainable design can be integrated beyond the site and building level. At the neighborhood level, Green-Tech Village integrates a mix of uses with an accessible open space system, a pedestrian-oriented layout of streets, and the potential transit station. To be more efficient and reduce expenditures, developments within Green-Tech Village should also consider joint maintenance and landscaping agreements.

2. Stormwater Management

The neighborhood will include a comprehensive stormwater management system that will promote Best Management Practices (BMPs), such as minimization of impervious surface, use of stormwater for non-potable applications, rooftop infiltration, rain gardens, and infiltration basins. In response to county and regional priorities, the City should particularly emphasize rooftop infiltration as a preferred means for managing stormwater quality and quantity.

Figure 4 depicts recommended stormwater management basins and conveyance routes based on a detailed study coordinated by the City Department of Public Works. These include four primary basins in natural low spots and one primary overland conveyance route. All basins should be designed to achieve water quality and quantity standards in accordance with the Nine Springs Neighborhood Stormwater Management Master Plan and the requirements of the Dane County Regional Planning Commission. The basins will accommodate stormwater from the districts in which they are located, along with stormwater from districts where impervious surface ratios will be comparatively high (e.g., Tech Core District). Other on-site stormwater management approaches and facilities will also be necessary, particularly for water quality.

The basins and conveyance routes should also serve as amenities for surrounding development. In particular, the large planned basin near Syene Road should be designed to benefit planned Village Residential development around it. Natural edge vegetation should be used, buildings should be oriented to take advantage of open space views, and a low-impact loop trail should be considered. Similarly, the main stormwater conveyance route in the northwest sector of the neighborhood should be carefully integrated into the surrounding development pattern and be aesthetically pleasing, in addition to serving its necessary function.

3. Planning for Site Plan Build-Out

Once businesses build in Green-Tech Village, the emphasis will shift from attracting new businesses towards retaining and growing existing businesses. Short-sighting initial site selection and site planning can make future on-site expansion difficult if not impossible. This can result in future costly relocations for the business and a loss of a business, jobs, and tax base for the community. As a result, careful site selection and site planning are critical to provide sufficient room for future on-site business expansion, in accordance with the recommended floor area ratios (FARs) within each district described in Figure 6. FAR is calculated by dividing the total building floor area by the total site area. Those standards introduce the concept of site plan minimum and maximum FARs at project build-out to achieve the desired development density and character.

Specifically, with initial site plan submittals, businesses and developers should indicate how they will achieve minimum required floor area ratios, both at the time of initial construction and at future build-out. The “build-out” site plan should indicate how future building and

parking expansion can be accomplished, even if there is no expansion planned in the foreseeable future. For example, the build-out site plan could show the future construction of a parking structure to replace a more land-consumptive surface parking area, with the former surface parking area converted for building expansion. More than two phases between initial construction and future build-out may be shown.

Figure 8 includes forecasts for total square footage of development, number of dwelling units, and population and students for each district within currently undeveloped areas in Green-Tech Village. Forecasts were prepared based on three different target floor area ratios from Figure 6: Minimum first phase FAR, Minimum site plan build-out FAR, and Maximum site plan build-out FAR.

Figure 8: Forecasted Development Impacts Under Different Build-Out Scenarios

		Village Center West	Village Center East	Tech Core	Tech Campus	Ag Tech Business	Village Residential	Total
Minimum First Phase FAR (density)	Total Acres*	16	19	36	112	97	50	330
	Total Square Footage	170,000	284,000	543,000	1,224,000	846,000	660,000	3,727,000
	Dwelling Units	100	150	0	0	0	550	800
	Population @ 2.0 per du	200	300	0	0	0	1100	1,600
	Students @ 0.20 per du	20	30	0	0	0	110	160
Site Plan Build-Out Minimum FAR (density)	Total Acres	16	19	36	112	97	50	330
	Total Square Footage	340,000	608,000	1,163,000	1,958,000	1,480,000	870,000	6,419,000
	Dwelling Units	175	300	0	0	0	725	1,200
	Population @ 2.0 per du	350	600	0	0	0	1450	2,400
	Students @ 0.20 per du	35	60	0	0	0	145	240
Site Plan Build-Out Maximum FAR (density)	Total Acres	16	19	36	112	97	50	330
	Total Square Footage	680,000	1,215,000	3,101,000	4,896,000	2,115,000	1,080,000	13,087,000
	Dwelling Units	350	600	0	0	0	900	1,850
	Population @ 2.0 per du	700	1200	0	0	0	1800	3,700
	Students @ 0.20 per du	70	120	0	0	0	180	370

*Note: Acres by district do not include already developed areas, planned road rights-of-way, environmental corridors, stormwater management areas, or parks.

III. IMPLEMENTATION

No plan as intricate and innovative as the Nine Springs Green-Tech Village Neighborhood Plan will automatically happen. Instead, significant public-private cooperation and vigilance in implementation is essential for the vision expressed in this Plan to become reality. The following implementation actions should be completed following adoption of this Plan. Figure 9 includes recommended timeframes and the individuals and groups that should work together to complete each action. Individuals and groups are generally listed in the order in which they would become involved, not in order of importance.

Figure 9: Recommended Implementation Actions

Action	Timeframe	Responsible Parties
1. Consider modifications to City’s PDD Planned Development District standards to facilitate approvals of projects that comply with this Plan OR adapt “Traditional Neighborhood Development” district.	Late 2002 – Early 2003	<ul style="list-style-type: none"> ▪ City Planner ▪ Planning Consultant ▪ Plan Commission ▪ Common Council
2. Develop “Green Building” performance checklist for review of projects, create means to require use of checklist, and develop incentives for compliance.	Early 2003	<ul style="list-style-type: none"> ▪ City Planner ▪ Economic Development Coordinator
3. Prepare and approve rezoning(s), subdivision plat(s), development agreements, and private covenants ensuring compliance with Plan.	When private development proposals offered	<ul style="list-style-type: none"> ▪ Private developer(s) ▪ City Planner ▪ Plan Commission ▪ Common Council
4. Establish Design Review District over Green-Tech Village. Include and refine design standards from this Plan as rules in Design Review District.	When first private development proposal offered, before building approvals	<ul style="list-style-type: none"> ▪ City Planner ▪ Plan Commission ▪ Common Council ▪ Private developer(s)
5. Create comprehensive management, maintenance, and security program and ongoing owner association(s) for inclusion in covenants/declarations.	When first private development proposal for non-residential areas offered	<ul style="list-style-type: none"> ▪ Private developer(s) ▪ City review
6. Implement recommendations of Northeast Fitchburg Transportation Study for Green-Tech Village area, considering innovative road designs.	As traffic demands, development projects, and/or TIF spending periods suggest	<ul style="list-style-type: none"> ▪ Public Works Director ▪ City Planner ▪ Public Safety Committee
7. Advocate the listing of Highway 14 interchange on MPO and State Transportation Programs.	Ongoing	<ul style="list-style-type: none"> ▪ Mayor ▪ Public Works Director ▪ Consultant
8. Work with county, regional, and state agencies to increase the priority for express transit service to Green-Tech Village, preferably rail.	Ongoing	<ul style="list-style-type: none"> ▪ Common Council ▪ Mayor ▪ City Planner

Action	Timeframe	Responsible Parties
9. Explore the feasibility of creating a public parking structure near the center of Green-Tech Village.	2003-2004	<ul style="list-style-type: none"> ▪ Public Works Director ▪ Economic Development Coordinator
10. Pursue state and federal grants to support research business development and construct paths.	Ongoing	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ City Planner ▪ Potential consultant assistance
11. Establish Tax Increment Financing District for non-residential portions of Green-Tech Village. In TIF project plan, refine criteria for TIF support to advance recommendations of Green-Tech Village Plan.	2003-2004	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ City Planner ▪ Community and Economic Development Authority ▪ Plan Commission ▪ Common Council
12. Prepare a detailed plan for the Mixed Use Village Center West District and assemble small parcels for implementation.	2003-2004	<ul style="list-style-type: none"> ▪ City Planner ▪ Private developer(s) ▪ Land Owners ▪ Design consultant
13. Create affiliate relationship with University Research Park.	2002-2003	<ul style="list-style-type: none"> ▪ New Economy Task Group ▪ University Research Park Board
14. Be active in securing new business certification via I-90 Technology Zone and exploring inclusion in Dane County Foreign Trade Zone.	Ongoing	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ New Economy Technology Team
15. Identify and network with venture capital investors to help start up, incubate, and accelerate new businesses.	Ongoing	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ Community and Economic Development Authority ▪ New Economy Technology Team ▪ Madison Gas & Electric
16. Develop marketing materials for Green-Tech Village (e.g., CD, web page).	2003-2004	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ Private developer(s) ▪ Design consultant
17. Work to develop and market Green-Tech Village as “Power Park” focused on clean and reliable energy.	Start in 2002 with ongoing marketing	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ Madison Gas & Electric ▪ Potential outside providers ▪ Private developer(s)
18. Work to secure and market high-speed communication and data transmission throughout Green-Tech Village.	Start in 2002 with ongoing marketing	<ul style="list-style-type: none"> ▪ Economic Development Coordinator ▪ Telecommunications providers ▪ Private developer(s)

Action	Timeframe	Responsible Parties
19. Implement progressive stormwater management plan for Green-Tech Village, and incorporate stormwater Best Management Practices in “Green Building” criteria.	Ongoing	<ul style="list-style-type: none"> ▪ Public Works Director ▪ City Planner ▪ Private developers ▪ Public Safety Committee ▪ Plan Commission
20. Work with regional and state agencies to amend environmental corridor, amend urban service area, and mitigate wetland loss if necessary.	As development or road proposals considered for these areas	<ul style="list-style-type: none"> ▪ City Planner ▪ Public Works Director
21. Work with City of Madison on complementary housing plan for McCoy Road corridor.	2003-2004	<ul style="list-style-type: none"> ▪ City Planner ▪ Economic Development Coordinator ▪ Community and Economic Development Authority

IV. APPENDIX A: PAST AND CONCURRENT PLANNING EFFORTS

A. Nine Springs Neighborhood Plan

The City of Fitchburg adopted the Nine Springs Neighborhood Plan in 1998. The Plan included lands west of Highway 14 between the E-Way and Lacy Road, including the entire area covered by the Green-Tech Village Neighborhood Plan. Key elements of the original Nine Springs Neighborhood Plan included:

- A compact mix of commercial and residential uses, including the recently adopted Swan Creek of Nine Springs residential development;
- A neighborhood center with sufficiently high residential and commercial densities to support transit service and recognize the potential for future commuter rail;
- An employment center east of Syene Road that is readily accessible from Highway 14 and rail service (i.e., Green-Tech Village);
- Continuous open space corridors that link the neighborhood to the E-Way; and
- Well-designed neighborhoods that utilize innovative planning and design techniques.

B. Nine Springs Neighborhood Stormwater Management Master Plan

As part of the planning process for the Nine Springs Neighborhood Plan, the City worked with Vierbicher and Associates to prepare the Nine Springs Neighborhood Stormwater Management Master Plan. The overarching goal of the Plan was to “enhance, protect and preserve the unique environmental character of the Nine Springs Creek E-Way corridor.” Key objectives of the Plan included:

- Prevent increases in storm water runoff and flooding;
- Improve and preserve water quality in all water bodies;
- Maintain natural flows and groundwater recharge;
- Protect and enhance fish and wildlife habitat;
- Minimize negative impacts to wetlands and springs; and
- Provide opportunities for multiple use of drainageways, like recreation.

The City is now working with property owners to implement this plan. Its recommendations are included in Figure 4.

C. Nine Springs Green-Tech Village Vision Plan

The Nine Springs Green Tech Village Vision Plan was prepared in 2000-01 with the support of Madison Gas and Electric and in consultation with City staff and officials. The Vision Plan, prepared by Vandewalle & Associates, provided a concept plan suggesting refinements for how the east end of the Nine Springs Neighborhood might develop. The Vision Plan identified certain principles that should be followed in more detailed planning and development efforts. It also reinforced the idea that this area is critical to the long-term economic health of the City of Fitchburg.

D. Swan Creek of Nine Springs

The 1998 Nine Springs Neighborhood Plan recommended a mix of low-density and medium density residential between Syene Road and Fitchburg Center. Sveum Enterprises, Ltd. recently

received approval for Swan Creek of Nine Springs, a 240-acre residential subdivision east Syene Road. At build-out, the development is planned to include 300 single-family units, 600 two- and multi-family units, 36 acres of public parkland, and 27 acres of other open space.

E. Fitchburg Housing Market Study

In 2002, Zimmerman/Volk Associates, Inc. prepared a housing market study for Green-Tech Village as part of Dane County's BUILD "Great Neighborhoods" program. The study determined the 2020 potential market for new residential construction within Green-Tech Village comprised over 4,000 households, although the rest of the study was based on an optimum mix of 2,000 households. The target market by household type was 46% traditional and non-traditional families, 39% younger singles and couples, and 15% empty nesters and retirees. The study estimated that the absorption of the 2,000 dwelling units could be achieved within 9 years.

F. Northeast Fitchburg Transportation Study

The City of Fitchburg hired KL Engineering and HNTB Corporation to prepare the Northeast Fitchburg Transportation Study to project the potential impacts of proposed developments on Fitchburg's east side. The 2002 Study concluded that, at build-out, the City would need to widen Syene Road, McCoy Road, and Cheryl Parkway east of Syene to four lanes. The Study also looked at potential interchange options at the intersection of Highway 14 and the planned extension of Cheryl Parkway. With an interchange, Highway MM could remain a two-lane roadway and traffic volumes on Lacy Road are reduced significantly, compared to the future volumes if there was not a new interchange. If the interchange occurs, the Study recommends a diamond/loop configuration, which is reflected in Figure 4.

V. APPENDIX B: PUBLIC PARTICIPATION SUMMARY

The Nine Springs Green-Tech Village Neighborhood Plan was funded, in part, by a grant from the Dane County BUILD “Great Neighborhoods” program. The planning process included a number of public meetings and open houses, property owner interviews, an environmental interest focus group, a review of existing plans and studies affecting the area, and an analysis of existing conditions within the proposed neighborhood.

A. Kick-off Meeting

The Kick-off Meeting for Green-Tech Village was held on March 7, 2002. The purpose of the meeting was to update the Council and the public on existing plans and studies prepared for the area; present conceptual ideas for Green-Tech Village, including the fundamentals of traditional neighborhood development, transit-oriented development, and sustainable technology; and outline the next steps in the planning process, including subsequent opportunities for public involvement.

B. Environment Focus Group

To help determine what levels of sustainable design and development were appropriate within Green-Tech Village, Vandewalle & Associates convened a focus group of professionals recognized for their expertise in green building, stormwater management, renewable energy, and sustainable design. The input gathered from this meeting guided the preparation of the recommended detailed site and building standards for each district (see Figure 5).

C. Summary of Neighborhood Design Workshop

As part of the planning process, the City and its consultant held a Neighborhood Design Workshop on April 30, 2002. At the workshop, participants were asked to identify their goals, objectives, and values that should guide the planning process. Common responses included:

- Promote compact development to reduce sprawl
- Create high-tech business setting
- Provide affordable and diverse housing types
- Preserve transit corridor for commuter rail or bus, but don't rely on it
- Provide connections to parks and Capital City Trail
- Promote sustainable development principles (e.g., stormwater)

Attendees also participated in a Conceptual Development Preference Exercise. A total of 62 images, which represented differences in building heights, intensities, characters, and forms for each district, were shown. Each image was rated based on participants' immediate reaction and with respect to its appropriateness within the Green-Tech Village area. The character of the top-rated images helped guide the preparation of the site and building design standards for each district. Many of these images are included in this document.

D. Presentation of Draft Plan

The draft Green-Tech Village Neighborhood Plan map and standards were presented to the public at an open house on July 30, 2002. Several questions about the Plan were offered and answered.

VI. APPENDIX C: SUMMARY OF EXISTING CONDITIONS

The planning process included a detailed inventory and analysis of existing conditions so that the resulting Plan was based on a sound foundation.

A. Study Area Summary

An inventory of existing land use, zoning, and property owner information was gathered and is depicted in Figure 10. While the planning area predominately consists of farmland, there are a few commercial and industrial businesses, and several clusters of single-family homes.

Current zoning generally reflects the existing land use. Most of the planning area is zoned either Rural Development (R-D) or Transitional Agriculture (A-T)-land that has been set aside for eventual development on public utilities. The homes and industrial properties along Syene Road are zoned Low-Density Residential (R-L) and Highway Business (B-H), respectively.

Properties west of Highway 14 and north of Lacy Road are located within the City of Fitchburg's Urban Service Area.

B. Natural and Cultural Resources Inventory

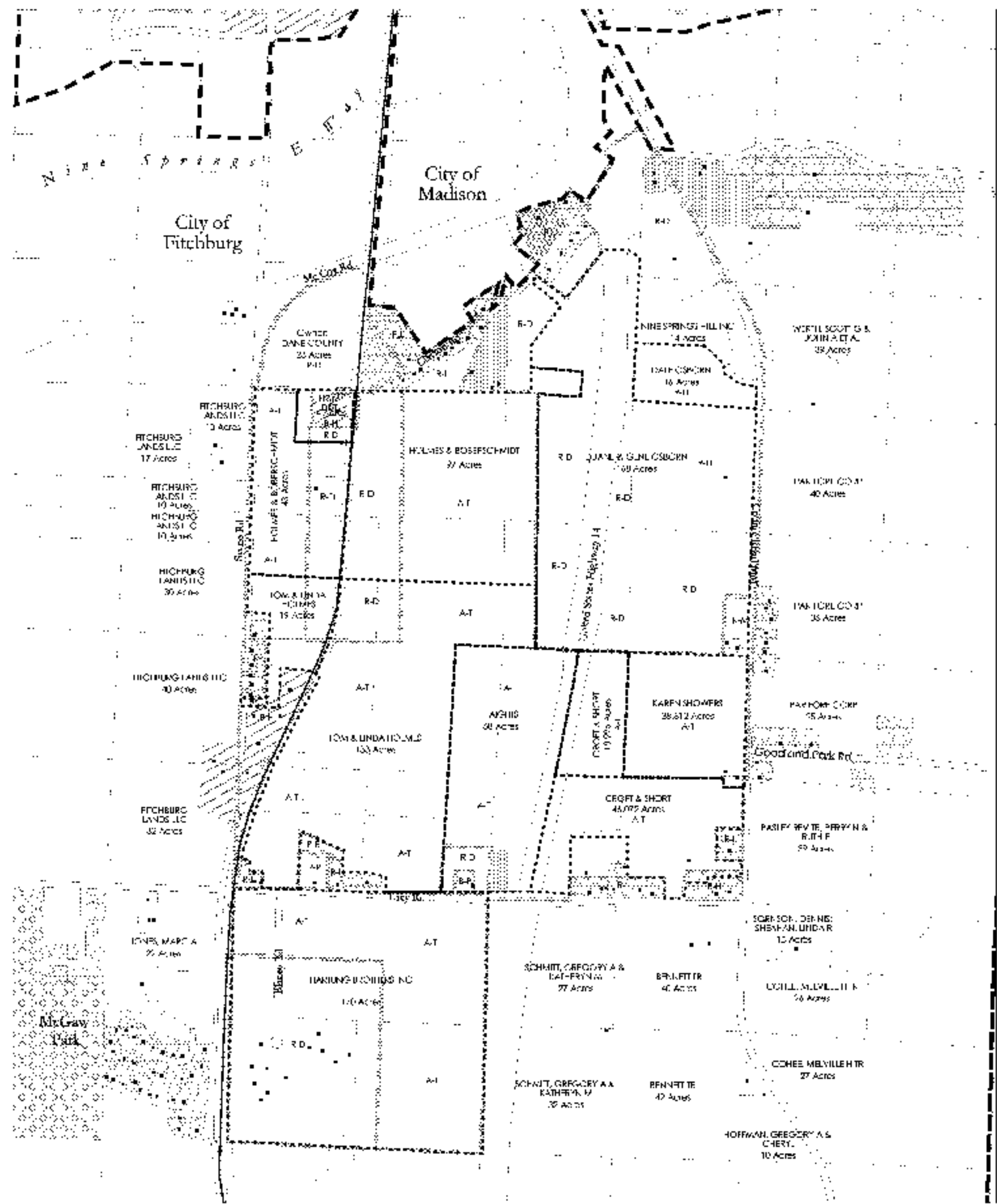
Figure 11 depicts an inventory of the environmental and historic features. Within the planning area, several areas of low-lying land form wetland areas. A large swath in the southern section of the planning area forms a distinctive wetland, through which Swan Creek flows. Detailed wetland delineation was prepared for part of this area and is included on Figure 10. At the north end of the planning area, the E-Way containing Nine Springs Creek is an important environmental feature. There is also County-owned open space just east of Syene Road, north of West Clayton Road. Although most of the area is farmland, approximately 5 acres of oak woodlands located along Highway 14 are recommended for preservation.

The terrain of the planning area is relatively flat to rolling and forms no significant areas with definitively steep slopes (in excess of 12%). The Clayton Road corridor is generally higher than the rest of the planning area, and provides some interesting views. A few areas of steep slopes, particularly a drumlin that runs southwest to northeast, lie on the east side of Highway 14.

Two houses near the planning area are included on the National Register of Historic Places: the McCoy House, which is open to the public, and the Haight farmstead east of Highway 14, which is a private residence.

C. Additional Development Features

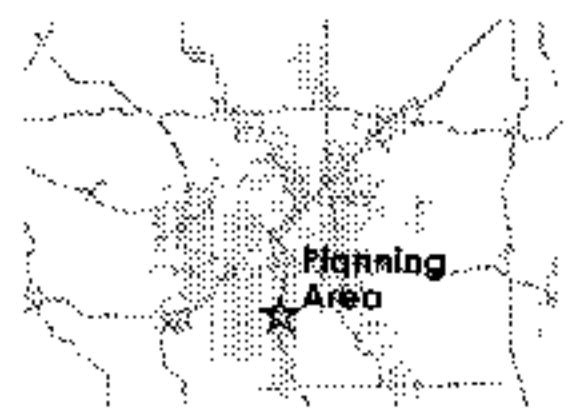
Figure 12 includes other features that may affect development within and near Green-Tech Village. Hydric soils are present within the planning area and are generally located within wetlands and environmental corridors or along drainageways.



City of Fitchburg: Nine Springs Green-Tech Village

Map 10: Study Area Summary

- Buildings
 - Railroads
 - Municipal Boundaries
 - Parcels in Study Area
 - Zoning Boundaries
 - Existing Land Use
 - Agriculture & Undeveloped
 - Commercial
 - Industrial
 - Institutional
 - Low Density Residential
 - Active Recreational
-
- Existing Zoning:
 - A-T - Transitional Agriculture
 - A-X - Exclusive Agriculture
 - B-H - Highway Business
 - R-P - Professional Office
 - R-R - Park and Recreation
 - R-D - Rural Development
 - R-L - Low Density Residential
 - R-M - Medium Density Residential



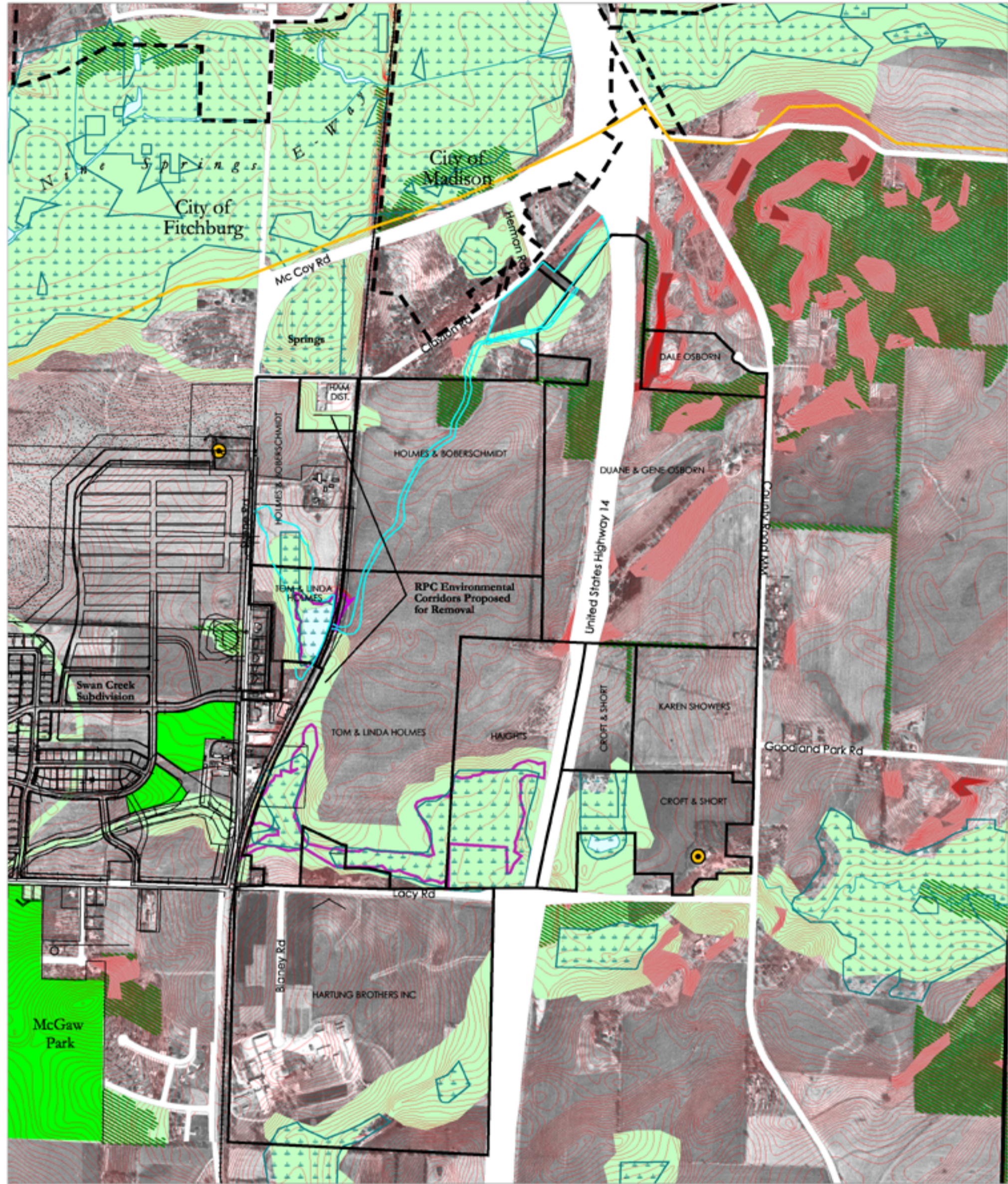
Drawn October 8, 2007

Source:
 Fitchburg, Wisconsin, 2007
 2007 City of Fitchburg, Wisconsin
 2007 - 2008 Boundary 2007

Windomatic & Associates
 Madison, Wisconsin
 Planning - Zoning - Land Use

1000 0 1000 Feet





City of Fitchburg: Nine Springs Green-Tech Village

Map 11: Natural & Cultural Features Inventory

*Extracted from WOTW's on-screen dataset. Delineations do not substitute a survey.
 **Mapped by the DCRPC based on the Regional Development Guide open space overlay. In August 1997, the town was refined to reflect town plans. Environmental corridors are continuous systems of open space that include environmentally sensitive lands and natural resources requiring protection from disturbance and development, and lands needed for open space and recreational use. They are based mainly on drainage and stream channels, floodplains, wetlands, and other resource lands and features.

Date: October 18, 2002

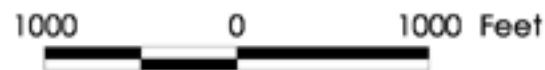
Sources:
 Municipal Boundaries - Dase County LBO 2001.
 Wetlands - Wisconsin DNR 2000, NRCS 2002.
 Slopes - Dase County RPC 2001.
 Contour - Created from Dase County Digital Elevation Model (2 foot).
 Other Information: V&A Inventory 2002.

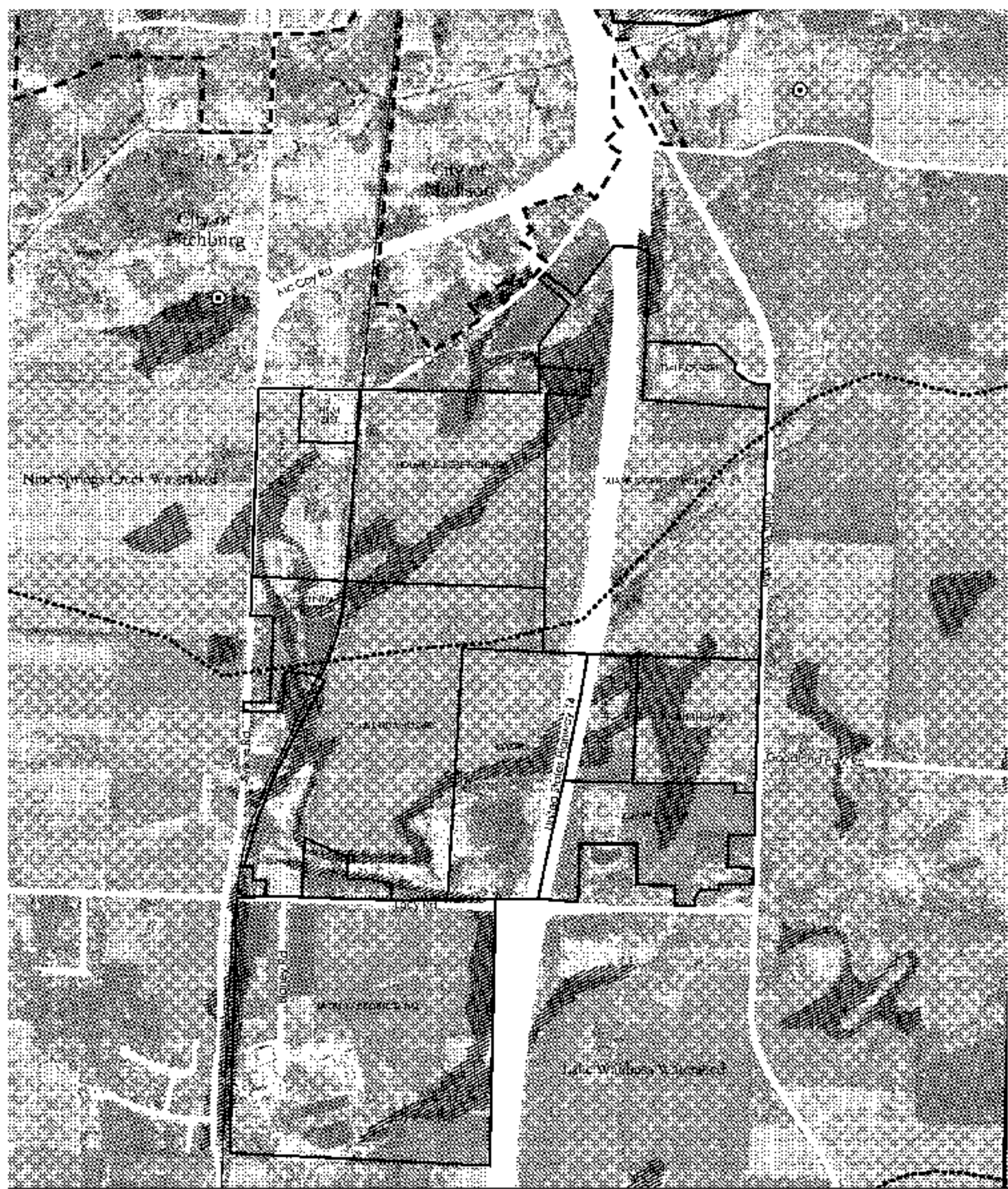
Vandewalle & Associates
 Madison & Milwaukee, Wisconsin
 Planning - Creating - Rebuilding

- Municipal Boundaries
- Subject Parcels
- Railroads
- Platted & Planned Swan Creek Subdivision Roads
- Capital City Trail
- Natural Resources Consulting Services Survey Delineated Wetlands
- DNR Delineated Wetlands*
- Contours (2 foot intervals)
- Slopes greater than 20%
- Slopes between 12% - 20%
- Woodlands
- RPC Environmental Corridors (includes wetlands)**
- Surface Water
- Proposed Drainageways & Stormwater Basins
- Parks
- Historic Sites



Note: All boundaries/locations are approximate. This map does not substitute for a survey.










City of Fitchburg: Nine Springs Green-Tech Village

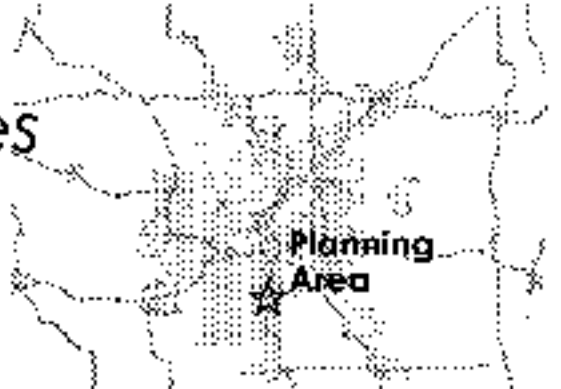
Map 12: Additional Development Features


Note: All boundaries/locations are approximate. This map does not substitute for a survey.

Date: 04/20/2012

Scale: 1" = 1000 Feet
 Date: 04/20/2012
 City of Fitchburg, WI
 City Engineer: Mark L. Brown

-  Municipal Boundaries
-  Railroads
-  Solid Waste Storage and/or Closed Landfill
-  Major Watershed Boundary
-  Hydric Soils*



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